REMARKS

Claims 1-40, 49-59, 61 and 62 are pending in the Application. Claims 1-40, 49-59, 61 and 62 have been rejected. Claims 1, 17-19, 37, 38, 40, 49, 51, and 52 are now amended.

Claim Rejections – 35 USC 112

The Examiner rejected claims 37, 38, and 40 under the second paragraph of 35 U.S.C 112, as lacking a sufficient antecedent basis for a limitation.

Claims 37, 38 and 40 are now amended so to provide an antecedent base to all limitations, thus to overcome the 35 U.S.C 112 rejections.

It is respectfully maintained that claims 37, 38 and 40 are now allowable

Claim Rejections – 35 USC 102

The Examiner rejected claims 1-40, 49-59, 61 and 62, under U.S.C. 102(e) as being anticipated by Zuk et al (US Patent Publication No. 20030154399 A1), referred herein after as 'Zuk'.

Favorable reconsideration of this rejection, in view of the following amendments and explanations, is respectfully requested.

The present application teaches a method and a system that facilitates fast and efficient detection and identification of a large number of previously stored information and data items, such as words, key-phrases, credit-card numbers, social security numbers, names, addresses, email address, account numbers, and other strings within electronic traffic.

In accordance with preferred embodiments of the present inventions, the prestored information items are transformed into a respective *canonical representation* in accordance with a predetermined *canonical* transformation format, thus facilitating much faster and efficient detection and identification of a large number of such previously stored information and data items within electronic traffic. The canonical representation preserves the original meaning but presents the data in a way that is recognizable to the system, and is more robust to changes and manipulations (e.g., the same credit-card number can be written with and without dashes, the same word can be written in uppercase letters, lowercase letters, with only the first letter capitalized, etc.)

Zuk, as described in the background of the invention section, provides gateway-based packet-forwarding network security systems and methods to not only detect security breaches on the network but also prevent them by directly dropping suspicious packets and connections. These systems and methods employ multiple techniques to detect and prevent intrusions, including stateful signature detection, traffic signature detection, and protocol anomaly detection.

Claim 1 as currently amended defines a method for detecting an information item within an information sequence obtained from a digital medium, the information item comprising any one of a specified set of prestored information items, comprising: transforming each of the set of prestored information items into a respective *canonical* representation which is meaning preserving, in accordance with a predetermined canonical transformation format; transforming the information sequence obtained from the digital medium, in accordance with the transformation

format; determining the presence of one or more of the prestored information items within the transformed information sequence, utilizing the respective representation.

As described hereinabove, preferred embodiments of the present invention teach the novel and inventive idea of transforming prestored information items into a respective *canonical representation which is preservative of meaning*, in accordance with a predetermined *canonical* transformation format, and determining the presence of one or more of the prestored information items within the transformed information sequence, utilizing the respective canonical representation.

For example, the present application describes on page 16, in line 9: "transforming the stored information items into a "canonized" form, in which they are represented in a lowercase (or uppercase) Unicode representation; omitting all non-alpha-numeric characters; transforming the stored information items to their base form, whenever possible (e.g., by transforming verbs to "present simple" form, removing suffixes such as "'s" and "ly", reducing to phonetic representation etc.); encoding the information items into a numeric representation in a manner that facilitates fast detection, as explained below". This allows easy and robust recognition and thus allows distribution of the data to be controlled.

Zuk describes extracting signatures from incoming data. However Zuk's signatures are not linguistic forms, but rather technical machine level forms, as known in the art, and therefore there is no issue of preserving meaning. For example, Zuk describes on Paragraph [0093]: "each packet flow descriptor is addressed by a 5-tuple key which is unique to that flow and is made of that flow's 5-tuple <source IP address, source port, destination IP address, destination port, protocol>".

Zuk never discloses or even hints the novel and inventive idea of transforming prestored information items into a respective *canonical* representation which is meaning preserving, in accordance with a predetermined *canonical* transformation format, and determining the presence of one or more of the prestored information items within the transformed information sequence, utilizing the respective representation, as taught by the present invention and defined by claim 1.

It is thus respectfully believed that claim 1 is both novel and inventive over the prior art, and is therefore allowable.

Claim 49 as currently amended defines an apparatus for detecting an information item within an information sequence, the information item being any one of a specified set of data items, comprising: a preprocessor, for transforming the information item into a *canonical* representation *in a way that is preservative of meaning*, in accordance with a canonical transformation format; and a scanner, for scanning the information sequence to identify sub-sequences; and a comparator associated with the preprocessor and the scanner, for comparing the canonical representation to the sub-sequences to determine the presence of the specified information item within the information sequence.

As described hereinabove, Zuk never discloses or even hints at the novel and inventive idea of an apparatus comprising a preprocessor for transforming prestored information items into a respective *canonical representation* having the same *linguistic meaning as the untransformed item*, in accordance with a predetermined

canonical transformation format, as taught by the present invention and defined by claim 49.
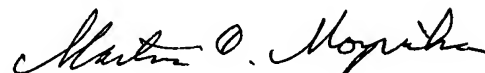
The remaining claims mentioned in this section of the Office Action are believed to be allowable as being dependent on an allowable main claim.

All of the matters raised by the Examiner have been dealt with and are believed to have been overcome.

In view of the foregoing, it is respectfully submitted that all the claims now pending in the application are allowable.

An early Notice of Allowance is therefore respectfully requested.

Respectfully submitted,

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Date: August 10, 2007

Encl:
Petition for Extension of Time for Two Months